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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,768	11/30/2001	Carol Ivash Gabele	AUS920010962US1	9802

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EXAMINER

SAXENA, AKASH

ART UNIT	PAPER NUMBER
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2128

DATE MAILED: 04/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/997,768

Applicant(s)

GABELE ET AL.

Examiner

Akash Saxena

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☒ Claim(s) 4, 10 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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**DETAILED ACTION**

1. Claims 1-18 have been presented for examination based on the application filed on 30<sup>th</sup> November 2001.

***Claim Interpretation***

2. Claim 1: As best understood by the examiner, the phrase "instrumentation event" is interpreted as "debug event" or "debug probe".

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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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- 3. Claims 1-4, 7-10 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent No. 6,011,920 issued to Jonathan William Edwards et al (Edwards '920 hereafter) in view of U.S. patent No. 6,336,087 issued to Luc M. Burgun et al (Burgun '087 hereafter).**

Regarding Claim 1

Edwards '920 teaches,

"A method for disabling an instrumentation event in a simulation model within a batch simulation farm in which a simulation client communicates with an instrumentation server to process simulation data with respect to said simulation model, said method comprising: assembling an instrumentation event disable list within said instrumentation server; "

as following. Edwards '920 teaches disabling an instrumentation event as setting and clearing breakpoint among other functionalities (Edwards '920: Col.5, Lines 34-44) in a distributed system that has a host and a target (Edwards '920: Figure 2).

The simulation client (target) communicates with the instrumentation server, also known as debug probe (Edwards '920: Abstract, Line 5) to process data with respect to model. Edwards teaches assembling an instrumentation event disable list within instrumentation server as application task list on the instrumentation server (Edwards '920: Abstract, Lines 11-12).

Edwards '920 also teaches

"and prior to simulating said simulation model within said simulation client: retrieving said instrumentation event disable list from said instrumentation server; and disabling instrumentation events specified within said instrumentation event disable list."

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as retrieving the application list from the instrumentation server which passes the application name from the list to the microkernel loaders (Edwards '920: Col.2, Lines 34-42) to load and debug the application (Edwards '920: Col.2, Lines 45-51).

Edwards '920 does not teach his network to provide instrumentation details for a simulation, but is a generic approach to provide application specific processing. The disable list on the Edwards '920 hold a list of application tasks that need to debug and not breakpoints on the simulation. However the similarity of Edwards '920 distributed network to perform debugging in an application is equivalent to collecting instrumentation events in a distributed simulation on a client where the list provided by the instrumentation server decides which application task or instrumentation event is tracked/debugged/disabled.

Burgun '087 teaches disabling/tracking an instrumentation event in a simulation model where the simulation client communicates with an instrumentation server to process simulation data with respected to simulation model (Burgun '087: Figure 21). Burgun '087 suggests two approaches to instrumentation. First, using full hardware implementation of instrumentation logic with the gate level synthesis where instrumentation logic can be optimized (Burgun '087: Abstract Lines 1-4; Col.5, Lines 15-28, Figure 20 for optimization). This is a more hardware intensive approach, but faster. Second, an approach that cross-references the gate logic transition points during simulation to the lines in the RTL source code (Burgun '087: Col.5, Lines 30 –43). The instrumentation data file, used for cross-referencing, can

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be used for effectively setting breakpoints which can be acted upon in the RTL simulation (Burgun '087: Col.14, Lines 20-22, 26-28). The model suggested by the applicants is in between the two approaches suggested by the Burgun '087 and uses the positive features of both approaches, implementing the instrumentation logic in hardware from first approach and creating a list of instrumentation events that need to be tracked from the second to better control the monitoring activity, although such a combination is already suggested by Burgun '087 (Burgun '087: Col.6, Lines 15-19).

It would have been obvious to one (e.g. a designer) of ordinary skill in the art at the time the invention was made to combine the teachings of Edwards '920 and Burgun '087 to create an distributed simulation platform with centralized disablement of certain instrumentation events. The motivation would have been that Burgun '087 and Edwards '920 both teach use of an instrumentation event list to track (enable/disable) and debugging of an application/simulation, by creating a list before the intended simulation (Burgun '087: Col.14, Lines 8-13, 20-22, 26-28; Edwards '920: Abstract, Lines 11-12; Col.2, Lines 28-34), hence using the list in a client-server type simulation as taught by Edwards '920 is obvious.

Burgun '087 and Edwards '920 both use the list from the instrumentation server to positively track the instrumentation events (i.e. debug an application, track instrumentation events during simulation as named on the instrumentation list). The

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applicants use the instrumentation list to disable the instrumentation events during simulation.

It would have been obvious to one (e.g. a designer) of ordinary skill in the art at the time the invention was made to use the instrumentation list positively or negatively based on their design choice (e.g., There are 10 events in all, should the list contain events to be debugged/captured or the events being disable).

Regarding Claim 2

Burgun '087 teaches assembling an instrumentation event list by identifying events and adding them by corresponding name to the instrumentation cross-reference list/file (Burgun '087: Col.9, Lines 12-21, 29-33).

Regarding Claim 3

Burgun '087 teachings are disclosed in the claim 2 above. The file disclosed above is the master instrumentation file.

Burgun '087 does not teach instrumentation event file to be on the instrumentation server.

Edwards '920 teaches that master instrumentation (application) list is on the instrumentation server (Edwards '920: Abstract 11-12).



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Regarding Claim 4

Edwards '920 and Burgun '087 teachings of simulator and instrumentation server are disclosed above in claim 1.

Edwards '920 teaches,

"issuing a request from said run time executive program to an application program interface (API) entry point within said simulator to retrieve said instrumentation event disable list;"

as debugging engine interfacing through debug probe interface to instrumentation server (Edwards '920: Figure 4) to retrieve list of application from instrumentation server (Edwards '920: Col.5, Lines 28-31).

Further Edwards '920 teaches,

"responsive to said request to retrieve said instrumentation event disable list, attempting to access said instrumentation server; and responsive to a successful access to said instrumentation server, delivering said master disable file to said simulation client."

as, instrumentation server providing the instrumentation event (application) list (Edwards '920: Col.5, Lines 28-31).

Regarding Claim 7

System claim 7 is directed towards the same limitations as the method claim 1 and is rejected for the same reason as claim 1.

Regarding Claim 8

System claim 8 is directed towards the same limitations as the method claim 2 and is rejected for the same reason as claim 2.

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Regarding Claim 9

System claim 9 is directed towards the same limitations as the method claim 3 and is rejected for the same reason as claim 3.

Regarding Claim 10

System claim 10 is directed towards the same limitations as the method claim 4 and is rejected for the same reason as claim 4.

Regarding Claim 13

A computer program claim 13 is directed towards the same limitations as the method claim 1 and is rejected for the same reason as claim 1.

Regarding Claim 14

A computer program claim 14 is directed towards the same limitations as the method claim 2 and is rejected for the same reason as claim 2.

Regarding Claim 15

A computer program claim 15 is directed towards the same limitations as the method claim 3 and is rejected for the same reason as claim 3.

Regarding Claim 16

A computer program claim 16 is directed towards the same limitations as the method claim 4 and is rejected for the same reason as claim 4.

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- 4. Claims 5-6, 11-12 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent No. 6,011,920 issued to Jonathan William Edwards et al (Edwards '920 hereafter) in view of U.S. patent No. 6,336,087 issued to Luc M. Burgun et al (Burgun '087 hereafter), further in view of U.S. Patent No. 5,403,639 issued to Jay S. Belsan et al (Belsan '639 hereafter).**

Regarding Claims 5 & 6

Teachings of Edwards '920 & Burgun '087 are disclosed above in claims 1 & 4.

Edwards '920 & Burgun '087 do not teach what happens in case when instrumentation server is not responsive to the API call.

Belsan '639 teaches a distributed system where the client is not completely dependent on the instrumentation server and can access the data stored on the data storage device directly (Belsan '639: Abstract Lines 1-5). The (instrumentation) file server maintains the synchronization between sets and accessed data (Belsan '639: Abstract Lines 5-10).

It would have been obvious to one (e.g. a designer) of ordinary skill in the art at the time the invention was made to combine the teachings of Edwards '920 and Burgun '087 with Belsan '639 because as Belsan '639 explained there is significant time advantage to having such a system (Belsan '639: Col.19, Lines 63-66).

Regarding Claims 11 & 12

System claims 11 & 12 are directed towards the same limitations as the method claims 5 & 6 respectively and are rejected for the same reason as claims 5 & 6.

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Regarding Claims 17 & 18

The computer program claims 17 & 18 are directed towards the same limitations as the method claims 5 & 6 respectively and are rejected for the same reason as claims 5 & 6.

***Remarks***

All claims are rejected.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akash Saxena whose telephone number is (571) 272-8351. The examiner can normally be reached on 8:30 - 5:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jean Homere can be reached on (571)272-3780. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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March 24, 2005



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